William H. Dall
U. S. National Museum

VOLUME VII. MARCH, 1891. WHOLE No. 58.

Division of Mollusks
Sectional Library

SMITHSONIAN
MAY 30 1989
LIBRARIES

THE

West American Scientist.

A popular monthly review and record for the Pacific Coast.

CONTENTS:

The Quicksilver Mines of Oregon ..... *Aurelius Todd*
Immigrant Plants in Los Angeles County, California ..... *Dr. A. Davidson*
Leucocrinum montanum ..... *Alice Eastwood*
The Forest Trees of Oregon.—III ..... *Prof. Thomas Condon*
Pacific Coast Woman's Press Association ..... *Mary S. Berry*
California Trees and Flowers.—III ..... *C. R. Orcutt*

C. R. ORCUTT, Publisher.

Corner Fifth and C Streets, - SAN DIEGO, CALIFORNIA.

EDITORIAL AND MAILING ROOMS, ORCUTT, CALIFORNIA.

ORCUTT NEWS COMPANY, REDLANDS, CAL., GENERAL AGENTS.

PRICE, 20 CENTS. PER YEAR, $2.00

[*Entered at Orcutt, Calif., as second-class mail matter.*]

Increase the beauty and convenience of YOUR COLLECTION by using

NEAT LABELS,

Supplied by the OBSERVER, Portland, Ct.

Perfect in quality, and acknowledged *the standard* in size and style. Send for Price List and Samples. Have you seen

THE OBSERVER,

A medium of interchange of observations for all Students and Lovers of Nature, devoted to all departments of Nature Studies. Send for sample copy. Address

EDWARD F. BIGELOW,

Publisher and Printer,

No. 5 Waverly Avenue, Portland, Conn.

Seeger & Guernsey's Cyclopædia of

THE MANUFACTURES AND PRODUCTS OF THE UNITED STATES.

comprises Every Article made in this Country—Indexed and Classified—and under each article the names and addresses of

THE BEST MANUFACTURERS.

Complete in One Royal Octavo Vol. of over 1300 pp

Price in Cloth $6. In ½ Morocco $8. In Flexible Leather $10.

INDISPENSABLE

to Buyers of Articles in all lines and Invaluable as a Statistical work.

Orders received at office of this Paper.

Look! See! Buy! these Packets!

"A" 50 varieties of stamps for 5c.
"B" 25 varieties better for 10c.
"C" 10 varieties unused European, 15c.
"D" 10 varieties unused, FINE, 25c.
"E" 20 var. unused and an Asiatic coin, 50c.
"S" 50 varieties India, Ceylon, old U. S., etc., some new, 20c.
"W" 10 unused 10c.
☞ Gummed Hinges FREE.

California Stamp Co., Santa Ana, Cal. Box 226

AGENTS WANTED!

To sell our "UNITED STATES SECRET SERVICE" during the War, by Gen. L. C. Baker, its organizer and chief; and "HARD-TACK AND COFFEE," a story of the inner life of the Army. Also our indestructible, interchangeable "METAL BACK ALBUM."

Apply to The J. Dewing Company,
813 Market Street, - San Francisco.

Mention this paper.

BOTANISTS.

WE desire a few more reliable collectors of native West American tree and flower seeds, bulbs, ferns, cacti and other plants.

Please write us what you can collect, season of supply, prices, and descriptions of those most desirable for cultivation.

THE ORCUTT SEED & PLANT CO.,
San Diego, California.

HENRY C. LANGREHR,

COUNTY SURVEYOR,

Homestead, Timber Culture, and Entries and Filings Made. Railroad, Water Supply and Irrigation Location and Construction, etc., Maps, Plans and Estimates Furnished.

1313 D STREET, SAN DIEGO, CAL.

P. O. Box 844.

The Great American Importing Tea Co.

Importers and dealers in

Pure Teas, Coffees and Spices.

969 Fifth Street, Near D,

SAN DIEGO, CALIFORNIA.

Forty Branch Stores in successful operation.

F. P. BRUNER,

NOTARY PUBLIC

Conveyancer of Deeds, Etc.

With Wells, Fargo & Co.

Sixth and F Sts., San Diego, Cal.

Don't BUY FENCING

Until you get our Price List of Ornamental and Farm Fences, Gates, Iron Posts, Tree Guards, Barbed and plain Wire, Netings, Wire-work, &c Hulbert Field Loom for both Picket and Netting Fences only $ 5. Galvanized Steel fence lasts forever. Donations for churches and cemeteries. Your name on gates. Catalogue free; write for estimates. We ship everywhere. Agents wanted

HULBERT FENCE and WIRE CO. OLIVE ST. ST. LOUIS, MO.

THE QUICKSILVER MINES OF OREGON.

The quicksilver mines that have been worked in Oregon, are situated in the northeastern part of Douglass county, on the head waters of the Umpqua river.

There are three that have been worked, the Nonpareil, Bonanza, and Elk Head. The former is situated on Calapooia creek, eight miles northeast of Oakland. The main lead, or deposit, is at the juncture of the sandstone on the west and basalt on the east, which is of a hard quality, and in some places partakes of the columnar structure so common in other parts of the state. There are, however, a few places where sedimentary rocks are on both sides of the lead, yet they seem to be only in spots, forming, perhaps, only cap rocks of no great depth. The veins of ore are much distorted, running a little east of north and west of south, of uneven widths, composed of volcanic tufous rock intersected by veins or ribs of jaspery iron ore formed by infiltration through crevices of water containing iron protoxide and silicic acid. The dip of the ledge is from west to east, though it is difficult to follow on account of its sinuosity and its swelling and pinching.

The walls are both volcanic rock. The sandstone on the west not reaching quite to the vein proper, neither does the hard basalt, as a rule, reach the vein on the east, there being a softer tufous rock, of varying character and hardness, composing the walls, gradually emerging into the other rock as they recede farther from the vein, which is from a few inches to many feet in thickness. The cinnabar being in spots, specks and streaks throughout the entire vein, which is richer in some places than others.

A small body of limestone has been found within a few yards of the vein in the sandstone. There is in a few places what appears to be a cap rock of sandstone and conglomerate overlying the basalt to the eastward near this mine, as also the Bonanza. This, however, is not without doubt as to its extent in depth. The trap appears to have pushed the sedimentary rocks out of their original position.

The Bonanza mines are situated some three miles southwest of the Nonpareil. The walls of the Bonanza are the footwalls of the sandstone on the west, but on the east it is usually slate. However, this slate is most likely only a cap on the basalt, which evidently underlies the slate at no great depth. The mountain being several hundred feet high, it has been worked mostly by tunnels instead of shafts. There are many small veins of very rich ore running in various directions through the main vein or lode, which is in places two or three hundred feet wide. Many fine specimens of the sulphides of mercury have been taken from this mine. It contains the mettacinnabarite, found only in this mine and the St. John's mine in California, which ore is more of a mechanical mixture than a chemical compound; but is, however, more or less mixed with the red sulphuret, as its streak is often quite red.

This mine also contains a considerable amount of native mercury, usually in fine particles disseminated throughout the various rocks.

The Elk Head mines are situated thirteen miles north from Bonanza, and differ from the others in having the trap, which in this case is amygdaloid, usually containing natrolite crystals and other zeolites on the west, and the sandstone in large areas on the east. The dip is slightly to the east or southeast. A few fine specimens have been taken from this mine, but the ore, though a splendid working ore from its large vein of soft tufa being easily worked, is not noted for fine specimens.

Somewhat to the south of this mine, cinnabar has been found directly in the trap rock without any apparent vein, but no large amount. All three of these mines agree in having large mountains of volcanic tufa or ocherous rock on the north, all of which usually contains a little cinnabar.

A small deposit of cinnabar ore in the southwestern part of Douglass county on the divide between the southern head waters of the Looking Glass creek, and those of Cow creek, eight miles west of Riddle, differs from the foregoing in having a large deposit of serpentine on the east, taking the place of the traps in the other mines.

Deposits of granite in the serpentine are a leading feature of this locality. All the foregoing agree in having the contiguous sandstones much metamorphosed.

The former three are in formations supposed to be not older than Eocene, probably lower Eocene, but the latter is thought to be much older, and not later than lower cretaceous, as some fine fern leaf impressions in the adjacent shale have been on good authority, pronounced carboniferous. I have now a number of these specimens among my collections.

Small deposits of cinnabar have been found in Baker and Josephine counties, but I am not aware of any other deposits of note.

Aurelius Todd.

IMMIGRANT PLANTS IN LOS ANGELES COUNTY, CALIFORNIA.

To the European visiting California it is cheering to find that though 6000 miles from home some of the flowers so familiar to him in the old country still greet him here. Under such varied conditions of soil and climate, these Old World immigrants have considerably changed; some, like the genus homo, have been improved racially and individually, while others, under the same conditions, have shown little increase, or have even depreciated.

Certain immigrant plants are so identified with the invasion of the Anglo Saxon race that their presence may be considered a proof of commencing colonization. 'Twas the constant association of Plantago major, the broad-leaved plantain, with the homes of the

early pioneer, that led the Indian to call it the "white man's foot." A farther traveled and more constant companion of civilization is the Shepherd's Purse (Capsella Bursapastoris), already abundant in California.

This hardy and prolific weed accompanied the Roman legions in their conquest of Gaul and Britain; and, after the lapse of centuries, followed the Anglo Saxon in the peaceful conquest of the West. The more useful European species have, of course, been primarily introduced for agricultural or domestic purposes. Of these the most valuable and most interesting historically is the Medicago sativa Lin., the alfalfa of the Spaniard, and Lucern of the French. This has been so long and so commonly cultivated in Spain that it seems but natural they should have introduced it here in the early days of the conquest. Though cultivated before this time by the Greeks and Romans, it is not indigenous to Italy, having been brought from Media at the time of the Persian war, 470 years before the Christian era. The very name (Alfalfa) indicates its origin, being the Arabic derivation of the Persian name. The history of Alfalfa is but the history of many of our now supposed indigneous plants; they have by accident, or otherwise, followed the path of civilization westward, till it becomes difficult to discriminate between what is indigenous, or otherwise.

Among the other useful fodder plants, abundant around Los Angeles, are: Erodium cicutarium and Erodium moschatum, or Filaree, better known in Europe as the Stork's bill and Melilotus parviflora, the Melilot. Whether these, like Alfalfa, were intentionally introduced, I have no means of knowing, but the probability is their introduction was accidental, and once introduced, and their value recognized, their wide-spread distribution is easily accounted for. Around Los Angeles, it seems to me its introduction, useful though it is, is not altogether an unmitigated blessing, as it has crowded out the natural and more enduring native grasses that otherwise would afford grazing supplies long after the filaree has disappeared.

Of grasses, I have observed Lolium perenne (rye grass), Dactylis glomerata (cock's-foot), Phleum pratense (cat's-tail), Festuca myurus, Phlaris canariensis and Poa annua, in the lawns and waste places within the city. Eragrostis pœoides and Panicum crusgalli are not infrequently near the river. Lolium temulentum exists sparingly at San Pedro; Bromus racemosus general, and in many parts common, and seems the only important grass that tends to naturalize and increase.

Of the clovers, Medicago deticulata, the Burr clover alone is common, the nature of its fruit ensuring its maintenance and continued extension; Medicago lupulina and Trifolium arvese, or Dutch clover, are merely casuals, and rare at that.

First cultivated, as useful plants, Brassica nigra (wild mustard),

B. campestris, Mentha piperita or peppermint, Marrubium vulgare, (Hoarhound) and Nasturtium officinale, (common watercress), have passed control and become firmly naturalized. The peppermint and watercress, from the lack of water or marshy ground, are not very abundant, but the others have multiplied to such an extent as to become the commonest and most injurious of weeds, covering acres of ground, to the entire exclusion of more useful species.

Malva borealis, the common mallow of the district, like Brassica nigra, grows so rank here as to be scarce recognizable as the European species, and springs up annually in most cultivated localities.

Around town, in some of the drier, localities, the field Convolvulus (Convolvulus arvensis), has secured a foothold. Its creeping habits and extensive rootlets make it one the most noxious and ineradicable of weeds, and should it secure itself in the cultivated districts the farmer's life will be no sinecure.

The Caryophyllaceæ order has three representatives:

Silene gallica, not uncommon in waste ground.

Stellaria meadia, around yards, and Cerastium triviale, found occasionally in the lawns.

Anthemis cotula, the May weed, is not uncommon on railway banks. Silybum Marianum, the milk thistle, grows along the San Gabriel. Centaurea meletensis, Sonchus oleracea and Sonchus asper are common in the city, the latter, contrary to the usual experience, is as common here as S. oleracea.

The common dandelion (Taraxacum officinale) may be observed in the lawns among imported grasses, but it does not take kindly to the dry soils.

A few specimens of Vicia sativa, the tare of cultivation, Dipsacus fullonum, the fuller's teazel, are annually found as escapes from cultivation.

Around the gardens and roadsides Polygonum aviculare and Chenopodium album are very common. The Plantago major may be found in moist ground, near zanjas, while its lesser brother, the P. lanceolata, or rib-grass, struggles for a casual existence in the grounds in the city.

Last of all, comes the Urtica urens, the lesser nettle, clinging, according to its Old World custom, around the haunts of man.

These, so far as I have observed, comprise all the European immigrants present in and around Los Angeles, but as time rolls on, we shall, no doubt, see the importation of many others.

A. Davidson.

LEUCOCRINUM MONTANUM.

The generic name of this dainty little plant means white lily; translating the entire scientific name it might be called, White Lily of the Mountains. It seems more appropriate, however, to name it White Prairie Lily; for it is the most attractive of the spring flowers of the eastern Colorado plains.

In the vicinity of Denver the plants are quite common during May, and in some localities can be seen for miles; great clumps of snowy flowers nestling in a bed of grass-like leaves. It is not unusual to find many plants in one cluster from which fifty blossoms could be easily gathered.

These six rayed starry lilies spring from ground the surface of which is often as hard as a rock and unfold to the blue sky, breathing forth their adoration in a delicate, exquisite perfume.

They seem to be as hardy and brave as beautiful; for a temperature away below zero does not freeze them, nor do the hot, dry days of summer deprive them of life.

It will be wondered, perhaps, how it is possible for this fragile looking flower to live and bloom in such adverse surroundings. The secret lies buried deep in the ground at its roots. During the spring rains and snows, the warmth and moisture awaken this sleeper from its ten months' repose and soon it shoots up, immediately beginning to form roots for the next year. On one plant can be found three sets of roots. The lowest are ghosts of roots that gave up their life to feed the growth of the previous spring; next are numerous long fleshy roots that are rapidly being exhausted; and uppermost the tender white roots are just beginning to collect the supply for the next year.

Most lilies store their nourishment in bulbs, but this independent prairie flower, has instead a short erect root stock and many long, fleshy roots.

The tube of the perianth extends down among the leaves and bracts for about two inches and its divisions are nearly an inch long, making the expanded flower about two inches in diameter. The seed vessel is at the very bottom of the tube and underground. I know of no other plant that naturally ripens its seeds underground, and have been greatly puzzled to explain this peculiar habit, which would seem to effectually check its distribution.

The only reasonable hypothesis that has occurred to me is this: the plant requires to be some depth below the surface so as to obtain sufficient moisture; it is found where the signs of gophers and prairie dogs abound; so, probably, the underground portions serve as food for these little animals and the seeds are thus properly distributed.

Alice Eastwood.

THE FOREST TREES OF OREGON.—III.

The timber of the following forest trees is specially adapted for cabinet work:

THE OREGON BROAD-LEAVED MAPLE (Acer Macrophyllum).—The wood of this tree is dense and handsome, polishing well, with a rich variety of grain. For household furniture it is a valuable material. As a shade tree it is superior. It grows rapidly, transplants easily, and if left to itself forms a handsome head.

ACER CIRCINATUM (the Vine Maple).—As its name indicates, it is too small for anything larger than barrel hoops, for which purpose it is sometimes sent to San Francisco.

OREGON ASH (Fraxinus Oregona).—This ash is abundant along the streams of western Oregon, sufficiently so to give it a place as a wood of commerce. Specimens of it may be seen in our cabinet shops that will vindicate this claim. The U. S. custom house at Portland is finished inside with Oregon ash. It loves moist places, and is on this account not suitable for shade or ornament.

OREGON ALDER (Alnus Oregona).—The Oregon alder is abundant along stream beds and other damp places. So marked is its love for springs and streams that the presence of a clump of these alders will often reveal to the thirsty explorer a spring of water. Its trunk is often two feet through. Its wood is often used in our cabinet shops, where it is prized for inside work such as drawers.

OREGON MYRTLE or California Laurel (Oreodaphne Californica). This handsome, fragrant tree is abundant along the Umpqua river and through Rogue river valley. It is at its best around Coos bay, where it is shipped to San Francisco. As it is so heavy that it will not float in water it is difficult to bring this wood to market. It is durable and susceptible of a fine polish, and in every respect is a wood to be prized in commerce. As an ornamental tree it is highly valued, but is difficult to transplant. Its fruit is fairly abundant and the tree may be raised from the seed.

THE OREGON LAUREL or Madrona (Arbutus Menziesii).—The madrona is frequent in Jackson county and occasional in the Willamette valley. For purposes of commerce it is not abundant enough. It is a handsome, dense, close-grained wood that bears a good polish and is durable. As an addition to the lawn or dooryard it is a real ornament, resembling the European laurel.

THE DOGWOOD (Cornus Nuttallii).—This tree is ordinarily too small and is too seldom met to be of any importance to commerce. But its wood is a very handsome one for furniture or parts of furniture requiring narrow boards. It often grows to be twelve or fifteen inches through and is capable of a high polish. In all respects it is a fine wood for the turning lathe.

THE COTTONWOOD (Populus trichocarpa or Balsamifera).—This tree is very abundant along the rivers and smaller streams and often

reaches a large size. Recent experiments in making paper from the fibers of this wood have been so successful that there is but little doubt of its future importance. This wood is soft and its fibers so silky as to insure the best results for paper making.

WILD CHERRY (Prunus emarginata, variety mollis). In the Willamette valley this tree is often in small groves of slender, straight form, eight to ten inches through; more seldom one finds a single tree twelve to eighteen inches through. Its wood is a handsome smooth material for furniture. In the coast mountains it is often seen in groves of considerable extent of long, straight and slender poles. *Thomas Condon.*

PACIFIC COAST WOMAN'S PRESS ASSOCIATION.

This Association formally announced its organization to the public by holding its first semi-annual meeting in San Francisco, on the 16th, 17th and 18th of March. It was organized in September last, and has a membership of about two hundred.

The officers were wisely chosen, and are: President, Mrs. Nellie B. Eyster; first vice-president, Mrs. Jeanne C. Carr; second vice-president, Mrs. Kate Douglas Wiggin; third vice-president, Mrs. Sarah B. Cooper; corresponding secretary, Mrs. E. T. Y. Parkhurst; recording secretary, Mrs. Sam Davis; assistant recording secretary, Mrs. Emily Brown Powell; treasurer, Mrs. Mary O. Stanton; auditor, Mrs. Isabel Raymond; librarian, Mrs. S. E. Reamer.

Only those having cards of admission were allowed to enter the hall where the exercises were held, but of these there were enough to fill the room at each session of the Association. The program was sufficiently varied to give interest to each session, while some of the papers were able and of unusual merit.

Among the notable women participating in its exercises—one of whom has a world-wide fame, and others of more than local honor—were, Mrs. Rose Hartwick Thorpe, Mrs. Charlotte Perkins Stetson—a most worthy descendant of Lyman Beecher and niece of Edward Everett Hale, Mrs. Sarah B. Cooper, Mrs. Wiggin, Mrs. Eyster, the president, Mrs. Parkhurst, the founder of the Association, and others. Madame Modjeska is an honorary member of the Association.

San Diego was represented by three delegates, Mrs. Rose Harwick Thorpe, Mrs. Evelyn M. Ludlum, Mrs. John R. Berry. Mrs. Thorpe's thoughtful poem, "Progress," deserves a careful reading before its beautiful depths are sounded and the poem fully appreciated.

Mrs. Berry read a short paper upon the topic assigned her, "Woman's Work in San Diego."

There were banquets, excursions, and receptions given to the Association by the cordial citizens of the city.

The next, which will be the annual meeting of the Association, will be held during the third week in September, at Hotel Del Coro-

nado, when it will receive from San Diegans as cordial a reception as that accorded to it by dwellers about the Golden Gate.

Mary S. Berry.

CALIFORNIA TREES AND FLOWERS.—III.

LIBOCEDRUS.

L. DECURRENS *Torr.* California White Cedar. A tall tree, conical in shape, in foliage and habit resembling Thuya gigantea.

LILIUM.

There are about fifty species of lilies in the world, California possessing eight handsome species, which are widely sought for their showy and often fragrant flowers. They are better known in European than in American gardens, but are worthy of greater attention in their native land.

L. WASHINGTONIANUM *Kellogg.* The Washington Lily is a tall, stately plant, with whorls of dark green leaves and many pure white fragrant flowers. A beautiful species, growing in loose soil on ridges or lightly shaded hillsides.

L. PARRYI *Watson.* This fine and exceedingly rare lily, named in honor of the late Dr. C. C. Parry, produces lovely clusters of large and very fragrant flowers of a clear lemon yellow.

L. RUBESCENS *Watson.* A rare form resembling the Washington Lily, except in the color of its exceedingly fragrant flowers, which change from white to dark ruby red after opening.

L. PARVUM *Kellogg.* A low, slender, graceful plant, bearing from two to fifty or more bell-shaped flowers with light yellow centers dotted with brown, the petals tipped with scarlet or crimson.

L. MARITIMUM *Kellogg.* The Marine Lily resembles the last, small, with dark green foliage, and usually fewer deep crimson or blood-red flowers, dotted with black.

L. PARDALINUM *Kellogg.* Hardy and very handsome, preferring a rich moist soil; bearing large and brilliant crimson flowers, dotted with black and with a yellow center. A favorite.

L. HUMBOLTII *R. & S.* Large and tall, stout, with orange-red flowers, spotted with brown. Thrives in dry open places. The Humboldt Lily is very stately and handsome.

L. COLUMBIANUM *Hanson.* A graceful miniature of the last.

LOBELIA.

L. SPLENDENS *Willd.* Two or three feet high, growing in moist situations, producing a many-flowered raceme of intense red blossoms.

LOESELIA.

L. TENUIFOLIA *Gray.* A showy plant, a span to a foot high, producing abundantly brilliant poppy-red or carmine flowers. Perennial.

L. EFFUSA *Gray.* An equally beautiful species of the mountains of Lower California, low in habit with light rose purple flowers. Like Phlox and Gilia, Loeselia is a genus of lovely flowers, well worthy of cultivation.

LUPINUS.

Showy annuals or perennials, a few shrubby, bearing conspicuous flowers in terminal racemes. The great majority are indigenous to West America. Many have long been cultivated and grown popular. The California species best known in cultivation are the following:

L. AFFINIS *Agard.* A foot or two high, often growing very rank, producing large spikes of brilliant blue flowers.

L. DENSIFLORUS *Benth.* Less than a foot high, with white flowers arranged in umbel like clusters on the terminal spike. Sometimes light sulphur yellow.

L. MICRANTHUS *Dougl.* Low in habit, with racemes of small light blue and white flowers. The cultivated form is considered quite pretty.

L. NANUS *Dougl.* A slender plant, with bluish, purple or white flowers.

L. NANUS ALBUS. The white flowered form.

L. ARBOREUS *Sims.* The Tree Lupin is a shrub four to ten feet high, with lilac colored flowers.

L. ARBOREUS LUTEUS. With sulphur yellow flowers, perhaps the typical form. A very ornamental shrub.

L. ELEGANS. What its name signifies.

L. GRANDIFLORUS. A perennial form, with blue, white or purple flowers.

L. POLYPHYLLUS *Lindl.* Perennial, similar to L. grandiflorus if the two are not identical or forms of the same species.

L. POLYPHYLLUS ALBIFLORUS. The white variety.

MAMILLARIA.

Very general favorites among the lovers of the odd or the beautiful are these unique little plants, most exquisite in form and finish. The scarlet edible berries, which cluster among the spines of our California cacti of this genus add also to the beauty of these plants, though the blossoms are often inconspicuous.

M. DESERTI *Engelm.* A little gem, from the Mojave Desert, of which we have as yet seen but a single plant. One of the choicest of the genus and we hope to rediscover the beauty soon.

M. GOODRIDGII *Scheer.* Sometimes called the Strawberry cactus, from the delicious flavor of its clubshaped fruit, but also called the Fish-hook cactus from the hooked central spines produced from the mamillae. The spines are sometimes of an ivory whiteness, but oftener of a rich brown color.

M. PHELLOSPERMA *Engelm.* A handsome plant, worthy of a place in any lady's parlor.

MIMULUS.

M. CARDINALIS *Dougl.* A showy perennial species, with brilliant large scarlet flowers.

M. GLUTINOSUS *Wendl.* A low shrub, with bright evergreen foliage and a profusion of buff or salmon colored showy flowers.

M. MOSCHATUS *Dougl.* Musk. A low, musk-scented plant, bearing large lemon yellow flowers.

MONARDELLA.

A genus of many beautiful flowers, well worth extended cultivation, showy, often sweet scented, either perennial or annual.

M. MACRANTHA *Gray.* An evergreen species with dark glossy foliage, a span high, producing showy heads of orange-red flowers.

M. NANA *Gray.* Almost identical in habit and general aspect with the last, the flowers pure white, sometimes suffused with rose. Very beautiful but less showy than the last.

M. LANCEOLATA *Gray.* A showy annual, producing masses of bright phlox purple flowers, six to eight inches or a foot high, branching, with a strong but pleasant pennyroyal perfume, similar in aspect with numerous related forms, like M. Pringlei and many others, all of which are well worthy of a place in any garden.

NEMOPHILA.

Very pretty annuals, mostly Californian, with tender herbage and lovely flowers of delicate blue, violet or white colors.

N. AURITA *Lindl.* Large violet flowers, one of the finest species introduced into cultivation.

N. AURITA ALBA *Dougl.* A beautiful white form.

N. INSIGNIS *Dougl.* Bright blue flowers an inch in diameter.

N. MACULATA *Benth.* White, with a strong violet blotch at the top of each lobe of the corolla. 'Love Grove.'

NICOTIANA.

N. GLAUCA *Graham.* A slender shrub, a native of South America, very light green foliage and yellow flowers, considered very striking and ornamental among the sub-tropical foliage plants. Naturalized in Southern California.

NOLINA.

Perennial liliaceous plants, with a thick woody trunk, in aspect somewhat resembling the Yucca. The stout flowering stem bears a panicle of numerous small creamy white flowers.

N. BIGELOVII *Watson.* The flowering stem six to ten feet high, bearing a dense panicle. The plant sometimes grows ten or more feet high.

N. PALMERI *Watson.* A cluster of these plants will cover a considerable area, and with the coarse, grass-like foliage may well be mistaken for a patch of some coarse species of grass at a distance. Less ornamental than the preceding.

ŒNOTHERA.

An almost exclusively American genus of over one hundred species, many with showy flowers, and some long in cultivation as ornamental.

Œ. BIENNIS *L.* The Evening primrose, with its large showy flowers, is too well known to need description.

Œ. BISTORTA *Nutt.* Showy yellow flowers, usually with a dark brown spot at base of each petal. A low decumbent annual, the variety Veitchiana being the form commonly seen in cultivation.

Œ. CALIFORNICA *Watson.* Low flowers, large white, becoming pinkish, fragrant. One of the loveliest and most delicate of flowers, often two or three inches across.

ORTHOCARPUS.

A large genus of low, branching annuals, nearly related to Castilleia.

O. PURPURASCEUS *Benth.* An erect, diffusely branched annual, a span to a foot high, producing numerous dense and thick terminal oblong or cylindrical spikes of flowers. Corolla yellowish, tipped with crimson or red and the whole encircled by the brilliantly colored crimson-purple or rose-purple floral bracts. Hundreds of acres are often transformed into brilliant fields of purple by the abundance of this, one of the handsomest of the spring annuals of California.

PAPAVER.

P. CALIFORNICA. *Gray.* While one of the latest discoveries, this plant ranks among the prettiest of our annuals, the fine bushy plant, a foot or more high, bearing large showy flowers of an average of two inches in diameter. The color is a bright saturn red to orange chrome, with a center of delicate sulphur yellow.

PENTACHAETA.

P. AUREA *Nutt.* This small hardy annual, with its large golden yellow heads of almost double flowers, introduced into cultivation in 1884, is a pretty dwarf composite that may be readily grown.

PENTSTEMON.

Hardy perennial plants with showy panicles of brilliantly colored flowers. Several of the numerous California species have long been in cultivation.

P. CENTRANTHIFOLIUS *Benth.* A showy species, two or three feet high, bearing long slender spikes of bright carmine-colored flowers, an inch long. Acres in extent of our mountain lands are sometimes a solid mass of carmine during the summer, when this handsome plant is in bloom. It was introduced in 1858.

P. CLEVELANDI *Gray*. One to three feet high, with dark green foliage and bearing a spike of lovely bright solferino-colored flowers, each an inch long.

P. PALMERI *Gray*. A tall growing species, with a long panicle of large white flowers delicately veined with purple.

P. SPECTABILIS *Thurber*. Corolla an inch long, broad, bluish-purple. Plant two or three feet high, glabrous. Flowers in a loose elongated panicle. A very showy species. This genus contains nearly a hundred species, nearly all worthy of cultivation, and many native to California.

PHACELIA.

P. CAMPANULARIA *Gray*. One of the finest species in the genus yet known in cultivation. Has received a first-class certificate in England, where it was introduced a few years ago.

P. CONGESTA. A useful plant in bee-gardens, like the rest of the genus, and one of the best known species in cultivation.

P. TANACETIFOLIA *Benth*. The Tansy-leaf Phacelia has long been in favor in cultivation for its beautiful foliage. An erect hardy annual, one to three feet high, bearing cymosely clustered spikes of light bluish flowers.

P. TANACETIFOLIA ALBA. A fine cultivated variety, with white flowers.

P. ORCUTTIANA *Gray*. One to three feet high, branching, bearing a profusion of small white flowers with brilliant yellow centers.

P. PARRYI *Torr*. One of the loveliest and most desirable of the many pretty annuals of Southern California for cultivation, second only in value to P. campanularia. The plant delights in warm sunny exposures, and produces large brilliant royal purple flowers with an open rotate corolla. Everyone admires this modest flower, whose bright face looks out at one with something akin to a human expression.

P. WHITLAVIA *Gray*. Large bell-shaped blue flowers.

PICEA.

P. SITCHENSIS *Carr*. Probably the tallest spruce known, growing 150 to 200 feet high, and of pyramidal form. An excellent timber tree.

PLATYSTEMON.

P. CALIFORNICUS *Benth*. A low annual, a span high, with delicate sulphur-yellow flowers, called Cream-cups by the children. Belongs to the Poppy family.

PROSOPIS.

P. JULIFLORA *D C*. The Mesquit tree of the desert regions, sometimes planted for hedges. The bean-like pods of this tree are useful for forage, and form an important article of food among some Indian tribes. Very sweet and nutritious.

P. PUBESCENS *Benth.* The Screw-bean. A smaller tree than the Mesquit, with curiously twisted pods.

PRUNUS.

P. ILICIFOLIA *Walp.* The Holly-leaf cherry. A beautiful dark evergreen shrub, yielding a pleasant edible fruit. Useful for hedges or ornamental planting.

PSEUDOTSUGA.

P. DOUGLASII *Carr.* The magnificent Douglas spruce, better known commercially, perhaps, as the Oregon pine. A gigantic tree, 200 to over 300 feet in height, and very beautiful.

Var. macrocarpa Engelm. A small form.

RHUS.

R. OVATA *Watson.* A handsome evergreen shrub, noted for its glossy foliage and graceful form. The small dark red berries make a cooling drink, pleasantly flavored, resembling lemonade, and the Indians formerly gathered sugar from this species. Thus it may be appropriately termed a Lemonade and Sugar Tree.

R. INTEGRIFOLIA *Nutt.* The dark evergreen foliage of this shrub or small tree, locally known as the Mahogany, is very handsome, while the larger bright red berries, coated with a white waxy substance also make a refreshing and cooling drink. The Californians formerly gathered and dried the berries for this purpose.

ROMNEYA.

This large white-flowering perennial poppy, named in honor of Dr. T. Romney Robinson, a noted astronomer, is one of the stateliest of California's contributions to horticulture. It is quite a hardy shrub with us, requiring only a sheltered position to protect its flowers; in England it is classified as half-hardy. A rich loamy soil is most suitable to its needs. In early spring vigorous shoots start from the dormant roots, growing from six to fifteen feet high, which do not die down but need to be pruned well back in the fall. A single species.

R. COULTERI *Harvey.* This magnificent wax-like flower has become very popular wherever known. The large hairy buds open at daylight, the crimped petals slowly unfolding from over the huge bunch of bright yellow stamens (as large as a walnut), until they spread out from six to nine inches. The flowers last several days and the buds open well in water. The foliage is very effective and makes with the flower an artistic study. Grown from either seed or cuttings with difficulty, but a well established root will well repay the attention bestowed upon it.

ROSA.

R. CALIFORNICA *C. & S.* The wild rose of California, with its

large, single, lovely pink flowers, is as pretty as its more showy cultivated sisters, and equally admired by those who love the beauties of nature.

R. MINUTIFOLA *Engelm.* Parry's wild Mexican rose, with its small, finely incised foliage, and small pink or white flowers that closely nestled among the leaves, met with a warm welcome when discovered in Lower California in 1882, but has steadily repulsed the kind advances of the gardener and refuses to long survive away from its native sky.

SALVIA.

S. CARDUACEA *Benth.* The Thistle-leaved sage, known to the Mexicans as *Chia*, is densely white-woolly, with prickly foliage, and showy lavender colored flowers, an inch long, in many-storied head-like whorls on a stem a foot or two high. Cultivated in Europe since 1854.

S. COLUMBARIÆ *Benth.* Smaller and less conspicuous. Also known as *Chia.* The seeds of either species infused in water form a pleasant mucilaginous drink; used largely by the aborigines medicinally as a beverage.

SAMBUCUS.

S. GLAUCA *Nutt.* The California Elder forms a large bush or small tree and bears prolifically of its edible berries, prized by some for making pies or sauce.

SCHINUS.

S. MOLLE *L.* A graceful evergreen tree, a native of Mexico and South America, with glossy light green drooping leaves in twenty or more pairs of slender leaflets. The small white flowers in large panicles followed by lovely clusters of small red berries. The Pepper tree, as it is called, is very ornamental, and planted extensively for shade or avenues.

SEQUOIA.

A remarkable California genus, including the noted Redwood and Big-tree for which California is famous.

S. GIGANTEA *Decisne.* This giant of the California woods, is the largest and tallest tree known to exist on the American continent, attaining a height exceeding 300 feet, only exceeded in size by some of the gums of Australia.

S. SEMPERVIRENS *Endl.* The California Redwood is the most valuable timber tree on the Pacific Coast, attaining a height of 200 to 300 feet, with light but strong and durable wood, susceptible to a handsome finish, of a walnut brown color.

SIMMONDSIA.

S. CALIFORNICA *Nuttall.* A low diffusely branched shrub, forming oval bushes one to five (rarely ten or fifteen) feet high with pale,

rigid evergreen foliage, producing a pleasant edible nut. An ornamental shrub, growing in rich valleys or on arid hills from the Pacific Ocean to the borders of the Colorado Desert.

SISYRINCHIUM.

S. BELLUM *Watson.* The Blue-eyed grass bears umbel-like clusters of small rotate flowers of a delicate shade of mauve, with canary yellow centers. A profuse bloomer. Grows from a few inches to two feet high. A very pretty Iris-like plant.

TORREYA.

T. CALIFORNICA *Torr.* The Californian Nutmeg is a tree fifty to seventy-five feet high, with slender drooping branches often grown for ornamental planting.

UMBELLULARIA.

U. CALIFORNICA *Nutt.* The California Laurel is a handsome shrub or tree, ten to seventy feet high, with thick evergreen leaves, better known in cultivation as Oreodaphne Californica.

WASHINGTONIA.

W. FILIFERA *Wendland.* The Californian or Washington fan palm is too well-known to need description. It has become one of the most characteristic trees in Southern California and is a worthy memorial to the fame of the great Washington whose name it bears.

W. ROBUSTA *Wendland.* A robust variety (not specifically distinct?) said to be more easily grown. None of the characters which are said to distinguish these two palms appear to be constant.

YUCCA.

An American genus of a few species of handsome and conspicuous ornamental plants, well known in cultivation.

Y. BACCATA *Torrey.* The Wild Date, or Spanish Bayonet, is a stately plant, sometimes growing ten or more feet high, and producing a pyramidal panicle of fragrant waxy, pure white flowers, or often marked with purple. The large, sweet edible fruit is sometimes called wild bananas.

Y. BREVIFOLIA *Engelm.* The Tree Yucca of the Mojave Desert.

Y. WHIPPLEI *Torrey.* The flowers borne in a large panicle on a scape five to twelve feet high. The rigid serrulate leaves surround the base of the stem in a dense cluster. The flowers are waxy-white or purple tinged. The plant dies after blooming, while the preceding species live year after year.

ZAUSCHNERIA.

Z. CALIFORNICA *Presl.* The flowers of this plant are one to two inches long and three-quarters of an inch across, scarlet to scarlet

vermilion, very showy, forty to fifty flowers on a stem. Plant two to five feet high, growing in large masses on dry hillsides, but more luxuriant near water, where it becomes a very conspicuous flower. A half shrubby perennial, sometimes called wild fuchsia.

ZIZYPHUS.

Z. PARRYI *Torrey.* A spiny shrub, with small flowers, producing an edible fruit of a dull brownish cadmium yellow color, said to make excellent jelly like its near relative, the cultivated jujube.

ZYGADENUS.

Z. FREMONTI *Torrey.* A pretty plant, belonging to the lily family, with paniculate racemes of cream-colored flowers.

C. R. Orcutt.

PUBLIC SAFETY

DEMANDS

That only honest and reliable medicines should be placed upon the market. It cannot, therefore, be stated too emphatically, nor repeated too often, that all who are in need of a **genuine Blood-purifier** should be sure and ask for

Ayer's

Sarsaparilla. Your life, or that of some one near and dear to you, may depend on the use of this well-approved remedy in preference to any other preparation of similar name. It is compounded of Honduras Sarsaparilla (the variety most rich in curative properties), stillingia, mandrake, yellow dock, and the iodides. The process of manufacture is original, skillful, scrupulously clean, and such as to secure the very best medicinal qualities of each ingredient. This medicine is not boiled nor heated, and is, therefore, not a decoction; but it is a compound extract, obtained by a method exclusively our own, of the best and most powerful alteratives, tonics, and diuretics known to pharmacy. For the last forty years, Ayer's

Sarsaparilla

has been the standard blood-purifier of the world—no other approaching it in popular confidence or universal demand. Its formula is approved by the leading physicians and druggists. Being pure and highly concentrated, it is the most economical of any possible blood medicine. Every purchaser of Sarsaparilla should insist upon having this preparation and see that each bottle bears the well-known name of

J. C. Ayer & Co.,

Lowell, Mass.

In every quarter of the globe Ayer's Sarsaparilla is proved to be the best remedy for all diseases of the blood. **Lowell druggists** unite in testifying to the superior excellence of this medicine and to its great popularity in the city of its manufacture.

Ayer's Sarsaparilla

PREPARED BY

DR. J. C. AYER & CO., Lowell, Mass.

Sold by Druggists $1, six $5. Worth $5 a bottle.

CLASSIFIED.

ONE LINE, ONE TIME, ONE DIME.
ONE LINE, TEN TIMES, TEN DIMES.

ART.

MISS M. E. GOVER, ETCHER AND PORtrait painter. Studio: Express Block, San Diego, Cal.

BOOKS.

BOTANY OF CALIFORNIA. TWO VOLumes, price, $12. C. R. Orcutt, Orcutt, Cal

CALIFORNIA TREES AND FLOWERS. An illustrated 32-page book of descriptive notes. Prepaid for ten cents. Orcutt Seed and Plant Co., San Diego, Cal.

C. R. ORCUTT, SCIENTIFIC BOOKS, Orcutt, Cal.

COMPLETE VOLUMES AND ODD NUMbers of the following periodicals for exchange:

†London Garden.
†Gardener's Chronicle.
† " Magazine.
American Florist.
† " Agriculturist.
† " Garden.
Gardener's Monthly (also full set, 27 vols.)
Horticulturist.
†Florist and Fruitist, bound and unbound.
† " Pomologist, bound.
West American Scientist, etc., etc.

I desire numbers and volumes marked thus (†), also Hovey's Magazine of Horticulture. E. S. Miller, Floral Park, L. I., N. Y.

THE KANSAS CITY SCIENTIST, FORmerly the Naturalist. Established in 1885. Now published by the Academy of Science Pub. Co. at $1.00 per year. Sample to prospective subscriber free. Official organ of the K. C. Academy of Science. Devoted to Science, Art and Literature. Its readers will be kept abreast with the leading topics of the day. Of a popular character, no more technical terms being used than are absolutely necessary. Shall we count you among the readers of Vol. V?

THE WISCONSIN NATURALIST, MADison, Wisconsin. A monthly magazine, devoted to the numerous branches of natural history. Fifty cents a year; sample copy, five cents.

CALIFORNIA FRUITS AND HOW TO Grow Them. A manual of methods, with lists of varieties best adapted to the different districts, by Edward J. Wickson, A. M. Practical, explicit, comprehensive, embodying the experience of hundreds of growers. Large octavo—575 pages, fully illustrated. Price, $3.00, post paid. C. R. Orcutt, San Diego, Cal.

BUSINESS CHANCES.

GOOD CHANCE FOR MAN OR WOMAN, at own home, to engage in profitable business. Small capital required; fair education needed. Address, with references, C. R. Orcutt, San Diego, Cal.

EXCHANGES.

BOOKS WANTED IN EXCHANGE FOR seeds and plants. C. R. Orcutt, Orcutt, Cal.

MINERALS.

A. N. FULLER, LOCK BOX 63, LAWrence, Kansas, offers choice minerals. Unsurpassed in quality and beauty, 300 varieties from all over the world. Very low prices. Catologue free. Fine specimens from Pacific Slope wanted in exchange, or for cash.

C. F. CARR, 126 STATE ST., MADISON, Wisconsin.

THE WORLD'S FAIR COLLECTION OF Minerals and Curiosities mailed by us is highly spoken of. New California Bulletin and lists, with box of curios, only ten cents. Naturalists' supplies. U. L. Hertz & Co., Napa City, Cal.

NATURAL HISTORY.

CEYLON, JAVA, BORNEO AND NEW Guinea insects, especially lepidoptera and coleoptera, single or in lots. Also orthoptera and dragon flies, and land and fresh water shells. Prices low. H. Fruhstorfer, care of German consulate, Soerabaia, Java.

DR. EDWARD GRAY, BENICIA, CAL., sole Pacific Coast agent of Gundlach Optical Co. Microscopic objectives of this company on hand and to order. Send for price lists. Gundlach photograph lenses to order. Agent of Queen & Co's Acme microscopes.

MADAGASCAR NATURAL HISTORY Specimens of all kinds. Prices low. Send postage stamps for price lists. F. Sikora, naturalist, Annanarivo, Madagascar, via Marseilles, France.

F. M. KINNE, KNOXVILLE, IOWA, OFfers geological specimens, scientific books, minerals, mound and Indian relics, Confederate money, shells, oological specimens, and supplies. Illustrated list for stamp.

C. F. CARR, NATURAL HISTORY STORE 126 State St., Madison, Wis. Send stamp for catalogue. Marine and fresh water shells, corals, bird skins, eggs, minerals, etc. Supplies for taxidermists, entomologists, oologists, botanists, etc.

AURELIUS TODD, TAXIDERMIST, EUgene, Oregon, offers the following shells and curios:

Lucapina crenulata Sby		$0 08
Glyphis aspera Esch		05
Acmæa mitra Esch		03
" spectrum Nutt	per 100 $1 50	02
" patina Esch	" " 1 50	02
" pelta Esch	" " 2 00	03
" persona Esch	" " 2 00	03
Nacella instabilis Gld.		05
Mytilus California Co. nr	05 to	20
Cardium corbis Mart	05 to	30
Saxidomus nuttallii Conr		25
" squalidus Desh.		25
Tapes staminea Conr.		08
" " Var. ruderata Desh.		08
Machaera patula, Dixon 2d class		10
Schizothærus nuttallii Conr	20 to	40
Starfish	10 to	15
Sea eggs	05 to	20
Sea asters or sand dollars		10

In addition to the above, we have about fifty sets of eggs and a few skins of the Tufted Puffin, which we offer at the remarkably low price of 75 cents each for the former and $1.50 each for the latter (postage extra.)

The whole lot of eggs we will sell at a special bargain.

Ten per cent. discount on orders of $5.00; and twenty per cent. on orders of $10.00 or more.

Postage on shells will not be prepaid unless orders amount to $5.00 or over.

NATURAL HISTORY.

NATURALISTS' SUPPLY DEPOT, EStablished by Brewster & Knowlton, Boston; Arldrich & Capen, Boston; A. L. Ellis & Co., Pawtucket. Consolidated, 1884, by Ellis & Webster, succeeded, Sept. 1, 1885, by Frank B. Webster, Boston. Dealers in all articles required by Naturalists, Oologists and Taxidermists; also, bird-skins, birds' eggs curiosities, and stuffed specimens. Sole agent in the United States for Thomas Hurst's artificial glass eyes. Publisher of the *Ornithologist* and *Oologist*. Send 10 cents for sample copy and catalogues. Frank B. Webster, 409 Washington St., Boston Mass.

PLANTS.

ORCUTT SEED AND PLANT CO., SAN Diego, Cal., offer choice novelties, especially in Cacti, wholesale and retail.

SEEDS.

TWELVE VARIETIES OF CALIFORnia Wild Flower seeds, 50 cents. Orcutt Seed and Plant Co., San Diego, Cal.

SHELLS.

MISS IDA M. SHEPARD, LONG BEACH Los Angeles County, California, makes a specialty of West American Mollusca.

E. V. VAN NORMAN, M. D.

PHYSICIAN . . .

— AND —

. . . SURGEON.

OFFICE, 927 SIXTH STREET.

Office Hours—10 to 12 a. m., 1 to 3 p. m., and Evenings. Residence, Corner 5th and Maple Streets.

Telephone 174.

SAN DIEGO, CALIFORNIA.

JOSEPH GILLOTT'S

Steel Pens

FOR ARTISTIC USE in fine drawing, Nos. 659 (Crowquill), 290 and 291.
FOR FINE WRITING Nos. 303 and Ladies', 170.
FOR BROAD WRITING Nos 294, 389 and Stub Point, 849.
FOR GENERAL WRITING Nos. 332, 404, 390 and 604.

Joseph Gillott & Sons, 91 John St., N. Y.

HENRY HOE, SOLE AGENT.

Sold by All Dealers throughout the World.

Gold Medal Paris Exposition, 1878.

California Flowers.

Many varieties mentioned in our descriptive list of "California Trees and Flowers," we are at times unable to supply, but on the other hand, we are continually introducing new and desirable trees and flowers to our novelty-loving friends. Descriptions of these, and supplementary notes on "California Trees and Flowers" may be found in this journal.

ANNUALS.

	PER PKT.
ABRONIA any species	$ 10
ACTINOLEPIS coronaria	10
ALFILARIA	05
ANTIRRHINUM Orcuttianum	10
ARGEMONE any variety	10
BÆRIA gracilis	15
CALANDRINIA any variety	10
CASTILLEIA affinis	25
CHÆNACTIS any species	10
CLARKIA any variety	05
CLAYTONIA perfoliata	10
COLLINSIA any variety	05
COLLOMIA grandiflora	05
DATURA meteloides	05
EYRTHRÆA venusta	25
ESCHSCHOLTZIA any variety	05
GILIA any variety	10
LASTHENIA glabrata	10
LAYIA elegans	15
LEPTOSYNE Douglasii	20
LUPINUS any variety	10
NEMOPHILA any variety	05
OENOTHERA bistorta	10
ORTHOCARPUS purpurascens	25
PAPAVER Californica	25
PENTACHÆTA aurea	10
PHACELIA	10
congesta	05
tanacetifolia v. alba	05
Orcuttiana	20
Parryi	15
whitlavia	10
PLATYSTEMON Californicus	10
SALVIA carduacea	10
Columbariae	15

Orcutt Seed & Plant Co.

5th and C Streets,

SAN DIEGO, CALIFORNIA.

FREE OUR NEW $85 Solid Gold Watch FREE. Worth $100.00. Best $85 watch in the world. Perfect timekeeper. Warranted heavy. SOLID GOLD hunting cases. Both ladies' and gent's sizes, with works and cases of equal value. ONE PERSON in each locality can secure one free, together with our large and valuable line of Household Samples. These samples, as well as the watch, are free. All the work you need do is to show what we send you to those who call—your friends and neighbors and those about you—that always results in valuable trade for us, which holds for years when once started, and thus we are repaid. We pay all express, freight, etc. After you know all, if you would like to go to work for us, you can earn from $20 to $60 per week and upwards. Address, Stinson & Co., Box 812, Portland, Maine.

Electrical Supplies.

BELLS, BATTERIES, WIRE, ANNUNCIATORS, ETC.

Incandescent Light Wiring a Specialty.

F. S. HARTWELL, ELECTRICIAN,

924 6th St.,

San Diego, - California.

Telephone 159.

DR. W. S. READ,

DENTIST

Pierce-Morse Block, Rooms 7 to 10,

F Street, Cor. Sixth, San Diego.

One of the BEST Telescopes in the world. Our facilities are unequaled, and to introduce our superior goods we will send FREE to ONE PERSON in each locality, as above. Only those who write to us at once can make sure of the chance. All you have to do in return is to show our goods to those who call—your neighbors and those around you. The beginning of this advertisement shows the small end of the telescope. The following cut gives the appearance of it reduced to

about the fiftieth part of its bulk. It is a grand, double size telescope, as large as is easy to carry. We will also show you how you can make from $3 to $10 a day at least, from the start, without experience. Better write at once. We pay all express charges. Address, H. HALLETT & CO., Box 880, PORTLAND, MAINE.

When Brown-Sequard was in America the **Vitalized Phosphites** was presented to him. His remarks were much to the effect that the giving of the active principle of the brain of animals to man should be conclusive of the most happy results and he had no doubt would largely improve brain and nerve power. He then made the observation, "I do not think the principle need end here."

There has been much jeering at the results which Brown-Sequard's discovery produced, but those who have studied the matter (our chemist amongst others), say that there are wonderful results yet unwritten about.

It is nearly thirty years since the **Vitalized Phosphites** were first used and physicians accept the fact that this brain material is the most perfect rejuvenator of the tired human brain. While the "Elixir" from the glands of animals was expected only to increase Virility, the **Vitalized Phosphites**, the special food from the brain of the ox, restores brain power and vitality as well as virility. It rejuvenates all weakened bodily and mental functions, and by its regenerative power to the blood prevents nervous affections.

When the brain of an active man is tired it is a common observation, "Do nothing for a while and rest." In most instances this is an impossibility and nothing but leaving home and all its duties will be of any avail. But when the brain is using a large amount of Vital Phosphites and the food does not, nay cannot, supply all that is needed, then, if recourse is had to

CROSBY'S VITALIZED PHOSPHITES

the brain and nervous system will be fed and brain work can easily be continued. Brain Fatigue, Nervous Exhaustion is nothing but *Brain Hunger*, often it is Brain Starvation and **Vitalized Phosphites** will always relieve it.

It cured and is highly recommended by Bishops Peters, Stevens and Robertson, Presidents Mark Hopkins, Willard Parker Dudley, Orton, Drapers' Beard and thousands of the world's best brain workers.

All Phosphates are inert, this is a vital nutrient Phosphite from the brain of the ox, and the embryo of wheat.

F. CROSBY CO.

56 W. 25th Street, New York.

For Sale By Druggists, or sent by Mail, $1.00.

SMITHSONIAN INSTITUTION LIBRARIES
3 9088 01425 0872

est American Scientist
V. 7 (whole no. 58)
March 1891